

treatment is early recognition. Antipathy at being deceived by these patients is understandable. Beguiled physicians should realize, however, that although this disorder is "voluntary" in the sense that patients know they are pretending, they are unable to stop. Rather, they deceive themselves with their own fabrication. Moreover, physicians need to be the patients' advocates in deciding on appropriate therapy. Only in this way can unnecessary operations and invasive diagnostic studies, with their inherent risks of complications, be avoided and the correct treatment be attempted. In addition to the risk of iatrogenic injury, the time and expense saved by rapid recognition, especially in view of limited health resources, may be the greatest benefit.

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Black Widow Spider (*Latrodectus mactans*) Bite During Pregnancy

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SPIDERS OF THE GENUS *Latrodectus* are found in all parts of the United States and throughout the world. They are

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common in the southwestern states and are found in and around domestic areas. Bites are not uncommon despite the docile nature of spiders—they seem to bite only when provoked. Information about spider bites and envenomation during pregnancy is lacking, but pregnancy does not protect a woman from this type of accident.^{1,2} We present a case of latrodectism occurring in a pregnant woman and discuss the literature of black widow spider bites during pregnancy.

Report of a Case

The patient, a 36-year-old woman at 22 weeks' gestation, was admitted to the University of New Mexico Hospital/Bernalillo County Medical Center (Albuquerque) because of restlessness, pain and cramping in her legs, hips, and lower back, shortness of breath, and chest tightness. She had been bitten on her upper left thigh while in bed. The patient found a spider in the bedsheets that she killed and brought with her to the hospital. It was identified as a "black widow" spider. The patient did not have uterine cramping, vaginal bleeding, or rupture of membranes.

On physical examination the patient had a temperature of 37.3°C, a blood pressure of 156/81 mm of mercury, a pulse rate of 92 beats per minute, and a respiratory rate of 16 per minute. She was alert and oriented but appeared anxious. The examination elicited no abnormalities except that her upper left thigh had about a 2-mm erythematous papule on the lateral aspect. The deep tendon reflexes were normal. Her cervix was closed, long, and high, and no vaginal bleeding was noted. Ultrasonography revealed a single live fetus, the size of which was consistent with dates. Laboratory studies revealed a leukocyte count of 10.9×10^9 per liter (10,890 per mm³) with 0.82 (82%) neutrophils.

The patient was initially given 10 ml of a 10% solution of calcium gluconate, 5 mg of diazepam, and 5 mg of morphine sulfate. She experienced some relief, but the muscle cramping and pain soon returned. She was given another 10-ml dose of a 10% solution of calcium gluconate and 5 mg of morphine sulfate. A skin test was done of the antivenin, and a standard dose—one 2.5-ml vial of antivenin in 50 ml of normal saline solution—was administered intravenously over 15 minutes. Within an hour of the administration of the antivenin, the patient indicated that she did not have any muscle cramping or pain, and she no longer appeared anxious. She was discharged the following day in good condition.

Discussion

The genus *Latrodectus* comprises several species. *Latrodectus mactans* (black widow), *Latrodectus geometricus* (brown widow), *Latrodectus bishopi* (red-legged widow), *Latrodectus variolus*, and *Latrodectus hesperus* are the species found in North America. Although they differ in their markings and color, their potent neurotoxins are similar and respond to the same antivenin. Generally speaking, only the female spider is considered a threat to humans. The male's small size and small che-

licerae or fangs are incapable of delivering dangerous envenomation.¹

The venom is oily and comprises several different components. The α -latrotoxin (molecular weight 130,000), the potent neurotoxin responsible for the symptoms associated with envenomation, binds to the lipid membrane of neurons and causes a synaptic release of a neurotransmitter.² This results in a dramatic release of acetylcholine at the neuromuscular junction, causing muscle contraction.

The most common symptoms are muscle pain, muscle spasms, and abdominal rigidity. Other symptoms include perspiration (localized or generalized), nausea, vomiting, diarrhea, cutaneous hyperesthesias, headache, tachycardia, bradycardia, arrhythmias, hypertension, convulsions, priapism, and shock. The symptoms generally occur within 30 minutes to an hour of the bite and usually resolve spontaneously over 12 to 48 hours. General body aches, weakness, fatigue, paresthesias, and perspiration rarely persist for weeks or months. Death is rarely the result of latrodectism. After moderate envenomation, subsequent bites may produce an increased local effect and little or no systemic effects.^{1,2}

There are no serologic tests to confirm the diagnosis of latrodectism. If the patient brings in the spider, the diagnosis is not problematic. The site of the bite may or may not have a discernible mark, and symptoms are non-specific. There are cases of patients who have undergone surgical exploration for "acute abdominal pain" or who were admitted to psychiatric wards.^{1,2} Thus, a history of a bite or possible exposure becomes crucial to the proper diagnosis and treatment.

Standard treatment can be found in most textbooks of emergency medicine. After initial wound care, most sources recommend the use of calcium gluconate, muscle

relaxants, and narcotic analgesics for mild cases. Tetanus toxoid should be considered in all cases. There is disagreement regarding the use of the antivenin. Some clinicians advocate administering antivenin only in severe cases of envenomation and not in patients with moderate envenomation because of the risk of serum sickness. Others point out that the amount of antivenin for black widow bites is small compared with the amount necessary for snake bites, and that even if serum sickness were to occur, it would most probably be mild.^{1,2}

Clearly not much is known about black widow bites during pregnancy. There are few reports or studies about the effects of envenomation during pregnancy. We can, however, draw some conclusions with the information we have.

α -Latrotoxin is a fairly large compound and unlikely to diffuse across the placenta. It is unlikely to have direct effects on the fetus, but without good evidence we cannot be sure.

Some of the possible effects of envenomation are accepted as being deleterious to the fetus. For example, certain cardiac arrhythmias can compromise maternal and fetal oxygenation. Hypertension, shock, and convulsions are also known to be potentially harmful to the fetus. Although abdominal cramping may be severe in some cases, it is not clear that such cramping could be responsible for a spontaneous abortion or preterm labor. Only when a substantial number of cases or studies have been reported will we fully understand all the ramifications of envenomation during pregnancy.

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